



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint®_rate2006 = 225

Lenovo System x3100 M5
(Intel Xeon E3-1270 v3, 3.90 GHz)

SPECint_rate_base2006 = 214

CPU2006 license: 9017

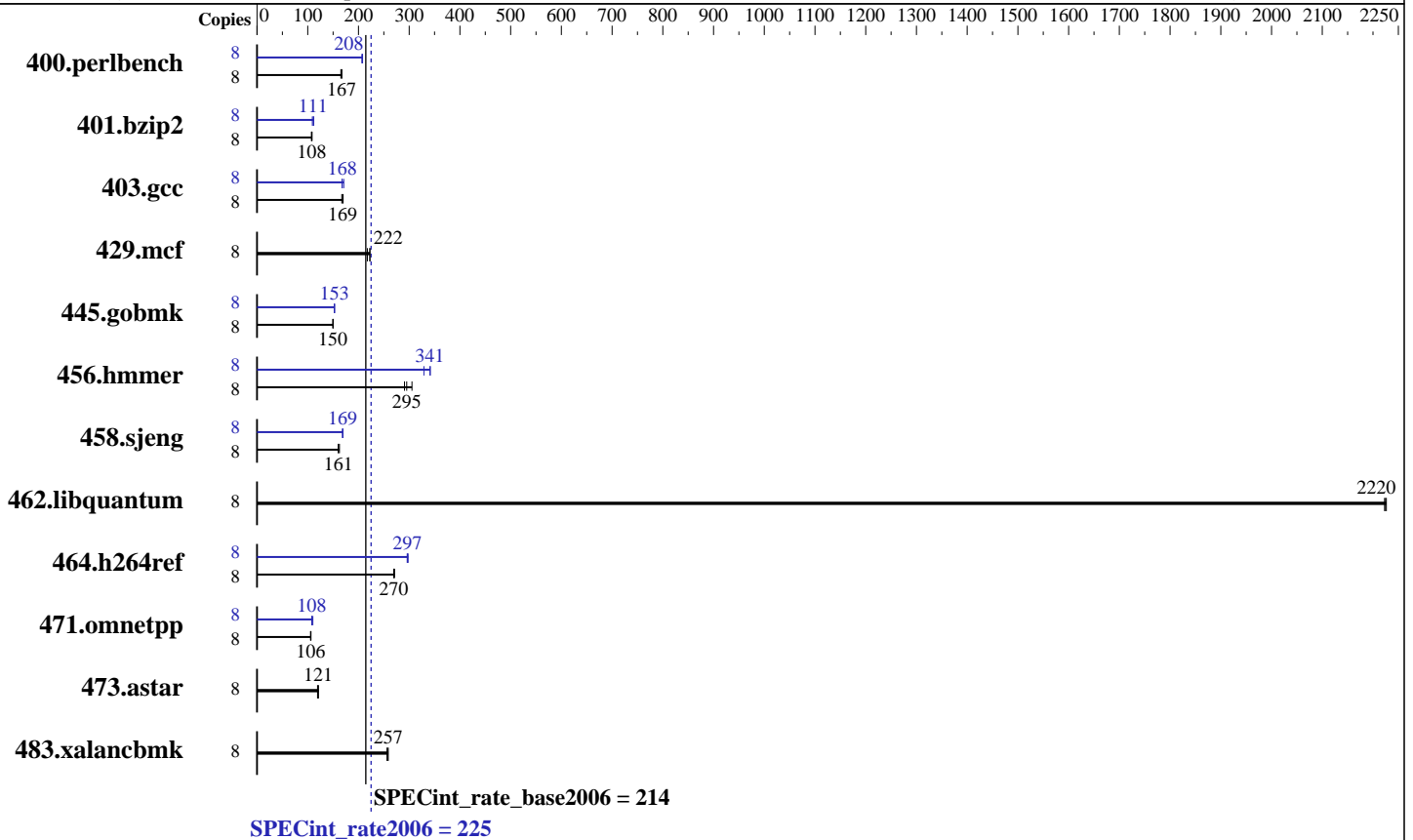
Test date: Sep-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: May-2014

Tested by: Lenovo Group Limited

Software Availability: Jun-2014



Hardware

CPU Name: Intel Xeon E3-1270 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
 CPU MHz: 3500
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (4 x 4 GB 2Rx8 PC3L-12800E-11, ECC)
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.1 (Maipo)
 3.10.0-229.el7.x86_64
 Compiler: C/C++: Version 16.0.0.0 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = **225**

Lenovo System x3100 M5
(Intel Xeon E3-1270 v3, 3.90 GHz)

SPECint_rate_base2006 = 214

CPU2006 license: 9017

Test date: Sep-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: May-2014

Tested by: Lenovo Group Limited

Software Availability: Jun-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	468	167	468	167	473	165	8	378	207	376	208	376	208
401.bzip2	8	714	108	712	108	720	107	8	697	111	708	109	690	112
403.gcc	8	382	169	379	170	385	167	8	384	168	376	171	383	168
429.mcf	8	328	222	328	223	335	218	8	328	222	328	223	335	218
445.gobmk	8	559	150	560	150	561	150	8	549	153	551	152	549	153
456.hammer	8	257	291	253	295	244	305	8	219	341	227	329	218	342
458.sjeng	8	602	161	596	163	605	160	8	574	169	574	169	571	169
462.libquantum	8	74.5	2220	74.6	2220	74.5	2230	8	74.5	2220	74.6	2220	74.5	2230
464.h264ref	8	656	270	653	271	656	270	8	594	298	597	297	598	296
471.omnetpp	8	473	106	473	106	470	106	8	463	108	454	110	463	108
473.astar	8	471	119	466	121	464	121	8	471	119	466	121	464	121
483.xalancbmk	8	213	259	215	256	215	257	8	213	259	215	256	215	257

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS setting:

Operating Mode set to "Efficiency-Favor Performance"

Sysinfo program /root/cpu2006_ic16/config/sysinfo.rev6914

\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1

running on x3100m5.labs.lenovo.com Sat Sep 5 11:27:42 2015

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

From /proc/cpuinfo

model name : Intel(R) Xeon(R) CPU E3-1270 v3 @ 3.50GHz

1 "physical id"s (chips)

8 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>

Page 2



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 225

Lenovo System x3100 M5
(Intel Xeon E3-1270 v3, 3.90 GHz)

SPECint_rate_base2006 = 214

CPU2006 license: 9017

Test date: Sep-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: May-2014

Tested by: Lenovo Group Limited

Software Availability: Jun-2014

Platform Notes (Continued)

```
cpu cores : 4
siblings  : 8
physical 0: cores 0 1 2 3
cache size : 8192 KB
```

From /proc/meminfo

```
MemTotal:      16100780 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

From /etc/*release* /etc/*version*

```
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.1 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.1"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.1:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.1:ga:server
```

uname -a:

```
Linux x3100m5.labs.lenovo.com 3.10.0-229.el7.x86_64 #1 SMP Thu Jan 29
18:37:38 EST 2015 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Sep 5 09:02

SPEC is set to: /root/cpu2006_ic16

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-root xfs   50G   34G   17G   67% /
```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS IBM -[J9E113LUS-1.05]- 07/06/2014

Memory:

4x Hynix/Hyundai HMT351U7EFR8A-PB 4 GB 2 rank 1600 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/root/cpu2006_ic16/libs/32:/root/cpu2006_ic16/libs/64:/root/cpu2006_ic16/sh"

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 225

Lenovo System x3100 M5
(Intel Xeon E3-1270 v3, 3.90 GHz)

SPECint_rate_base2006 = 214

CPU2006 license: 9017

Test date: Sep-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: May-2014

Tested by: Lenovo Group Limited

Software Availability: Jun-2014

General Notes (Continued)

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:

icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalanbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/sh -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 225

Lenovo System x3100 M5
(Intel Xeon E3-1270 v3, 3.90 GHz)

SPECint_rate_base2006 = 214

CPU2006 license: 9017

Test date: Sep-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: May-2014

Tested by: Lenovo Group Limited

Software Availability: Jun-2014

Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

```
400.perlbench: icc -m64
```

```
401.bzip2: icc -m64
```

```
456.hmmer: icc -m64
```

```
458.sjeng: icc -m64
```

C++ benchmarks:

```
icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

Peak Portability Flags

```
400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
458.sjeng: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
               -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
               -par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
            -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
            -par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch
            -auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 225

Lenovo System x3100 M5
(Intel Xeon E3-1270 v3, 3.90 GHz)

SPECint_rate_base2006 = 214

CPU2006 license: 9017

Test date: Sep-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: May-2014

Tested by: Lenovo Group Limited

Software Availability: Jun-2014

Peak Optimization Flags (Continued)

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4
-auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -ansi-alias
-opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Flags-V1.2-HSW-B.20150923.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Flags-V1.2-HSW-B.20150923.xml>



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 225

Lenovo System x3100 M5
(Intel Xeon E3-1270 v3, 3.90 GHz)

SPECint_rate_base2006 = 214

CPU2006 license: 9017

Test date: Sep-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: May-2014

Tested by: Lenovo Group Limited

Software Availability: Jun-2014

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Wed Sep 23 11:04:35 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 September 2015.